its first air quality evaluation tests in Volgograd, using an American air quality sampler that can measure inhalable particulates at the PM_{10} level, a standard signifying particulate matter less than 10 millimeters in diameter. Until now, the Russians were unable to measure particulates this small. EPA researchers are currently analyzing the filters from those experiments to determine the precise nature and sources of the city's pollutants and to make further recommendations.

"The Russian monitoring systems and standards are currently configured much differently than ours," says Jon Schweiss, chief of the EPA air characterization section based in Seattle and member of the air quality evaluation team in Volgograd. "But now they are considering suspending their total particulate standard and replacing it with one similar to our own. Throughout this program, we've found the Russians to be very open to new ideas—just tremendously motivated and professional."

IARC on Risk

The International Agency for Research on Cancer of the World Health Organization held a five-day workshop in Lyon, France, to discuss quantitative estimation and prediction of carcinogenic risks (QEP). The purpose of the workshop was to provide IARC with some guidance concerning the role they may play in providing research support for QEP and on whether they should expand their current risk assessment activities to include QEP.

There has been increasing pressure on IARC in recent years to expand the monograph program, which evaluates the strength of the evidence for a carcinogenic effect from an agent and generally does not quantify the magnitude of that effect as a function of the level of exposure to the agent. In the standard paradigm for risk assessment, QEP involves adding dose–response evaluation and exposure assessment to IARC's current hazard identification role.

The workshop, held 18–22 October 1993, consisted of 40 researchers and regulatory officials from North America, Europe, Japan, and Australia. The first three days of the workshop focused on a review of the methodology used for QEP. The review consisted of a general discussion of the methods and the use of QEP performed for three example compounds: dioxin, radon, and methylene chloride. Following the review, the work group broke into four smaller groups to draft background summaries on QEP and to draft recommendations for IARC.

The main recommendations of the working group can be summarized as follows. First, the hazard indentification process currently used by IARC for determining if an agent is carcinogenic should be preserved in its present form. The working group felt that adding QEP to the current IARC monograph program would lead to a process that is unwieldly and difficult to manage. The working group also said that the addition of QEP to the current monograph series could detract from its scientific excellence. However, the group did say that IARC can and should play a key role in risk estimation.

The second recommendation concerned a variety of roles IARC could play with regard to improving the scientific validity of QEP. These include basic research on QEP, a symposium on research issues related to QEP, performance of QEP for selected compounds, and the publication of reports from these activities in their IARC Monograph Series.

IARC

Kleihues—New director seeks expansion of IARC.

New Directions for IARC

The cornerstones of epidemiology and laboratory research will remain vital aspects of the International Agency for Research on Cancer, according to Paul Kleihues, who assumed the IARC directorship in January. While the agency intends to keep the balance between epidemiology research and laboratory research, study will be expanded in the area of cancer genetics, which Kleihues called "traditionally underrepresented," in a new unit to be created this year.

According to Kleihues, the agency plans to decrease its efforts in the areas of mutagenesis and DNA adduct studies, programs IARC has strongly developed in the past, to allow for considerable expansion into new aspects of cancer research.

The first of these new areas will be a new agency unit devoted to studying the molecular aspects of cancer, specifically genetic susceptibility. Said Kleihues, "We want to identify genes which predispose people to developing cancer, whether it is spontaneous or induced by exposure to environmental carcinogens." For instance, he added, "Many people smoke, but only a small portion of those develop lung cancer. We want to know why 10 out of 11 do not get cancer." The new unit will also attempt to identify in certain populations whether there are genes that may protect people from developing cancer.

Although considerable progress has been made in the area of chemoprevention in the last three to four years, Kleihues says, it is not enough. "If on the one hand you can identify people at risk for cancer, then on the other hand you must offer these people some means to prevent it," he said. For this reason, said Kleihues, IARC will expand research into chemoprevention of cancer in a new unit that will investigate prevention strategies for individuals who are at high risk for developing cancer because they are genetically predisposed, have been exposed to high levels of environmental carcinogens, or have developed a single tumor in a site where multiple tumors usually occur.

Kleihues outlined plans for the IARC Monograph Series, which he called "one of the more important and visible aspects of the agency over the last 20 years." In a move which he calls "a first and modest step towards risk assessment," the series, which in the past has been devoted to classifying carcinogenic agents based primarily on animal and human data, will be expanded to include data on mechanisms of carcinogenesis. Understanding such mechanisms, said Kleihues, is key to determining what agents will produce cancer in humans. He stressed, however, that in the foreseeable future, the agency "will not engage in quantitative risk assessment."

Kleihues, who replaces Lorenzo Tomatis as director of IARC, obtained his medical degree in 1962 from the University of Münster in Westphalia, Germany. From 1964 to 1976 he worked as a research assistant at the Max-Planck Institute for Brain Research in Cologne. Kleihues served as a professor of neuropathology and head of the Division of Neuropathology in the Institute of Pathology at the University of Freiburg, in Germany, from 1976 to 1983. In 1983 he became a professor of neuropathology at the University of Zurich and in 1992 assumed the directorship of its newly created Institute of Neuropathology before leaving to take his position at IARC.

Kleihues called departing director Tomatis the "father of the monograph series" and says that the international standing of the series is due in great part to Tomatis's efforts. To his credit, Kleihues said, Tomatis kept IARC an independent institution, not subject to political or national influences, which he called "a remarkable achievement," and a goal he plans to continue.